

Florida

How To Catch A Big Bass
Exploring Myakka Park

Fishing • Hunting
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Outdoor Recreation

WILDLIFE

JANUARY 1970

The Florida Magazine for all Sportsmen

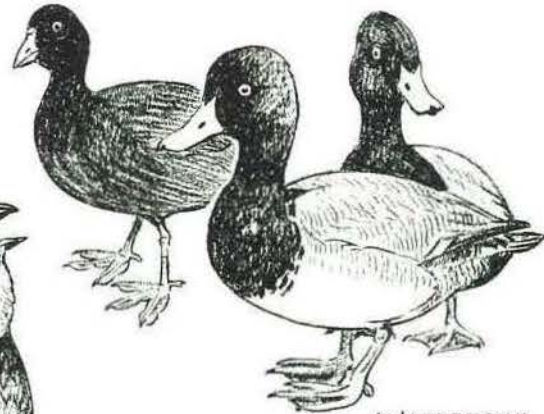
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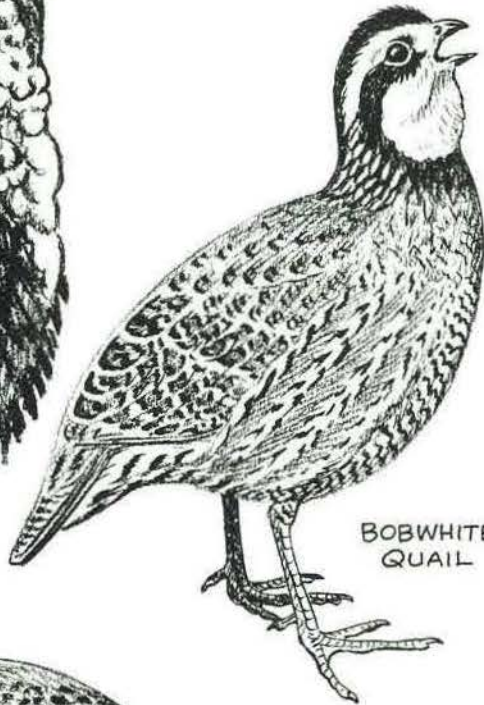
Florida Wildlife Scrapbook

FLORIDA GAME BIRDS

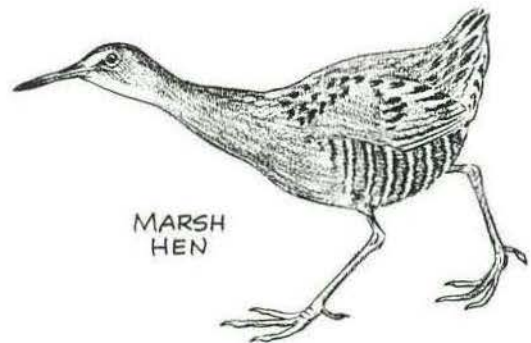
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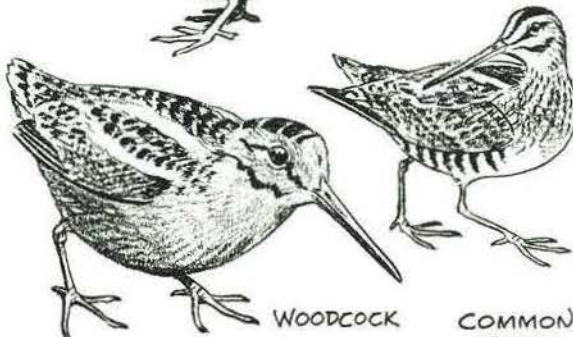
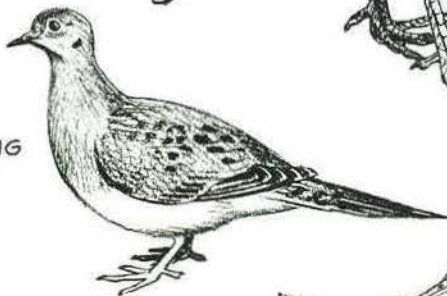


BOBWHITE
QUAIL



MARSH
HEN

MOURNING
DOVE



WOODCOCK

COMMON
SNIPE

BIRDS CLASSIFIED BY LAW AS GAME BIRDS PROVIDE SPORT AND FOOD FOR HUNTERS DURING LEGAL OPEN SEASONS • GAME BIRDS ALSO CONTRIBUTE TO THE ECONOMY OF FLORIDA THRU SALES OF HUNTING EQUIPMENT, CLOTHING, FOOD, COSTS OF RAISING AND CARE OF HUNTING DOGS, TRANSPORTATION COSTS TO AND FROM HUNTING SITES, AND MANY OTHER ITEMS • GAME MANAGEMENT PRACTICES, RESEARCH, AND GAME LAWS ARE METHODS USED TO INSURE CONTINUED ABUNDANCE OF THESE NOBLE AND VALUABLE BIRDS

Florida WILDLIFE

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JANUARY 1970

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The Cover

One of the more common birds of both woodland and garden, the Towhee is a downright friendly bird. The female, at top, is brownish—the male has a black back. See page 12.

From A Painting By Wallace Hughes

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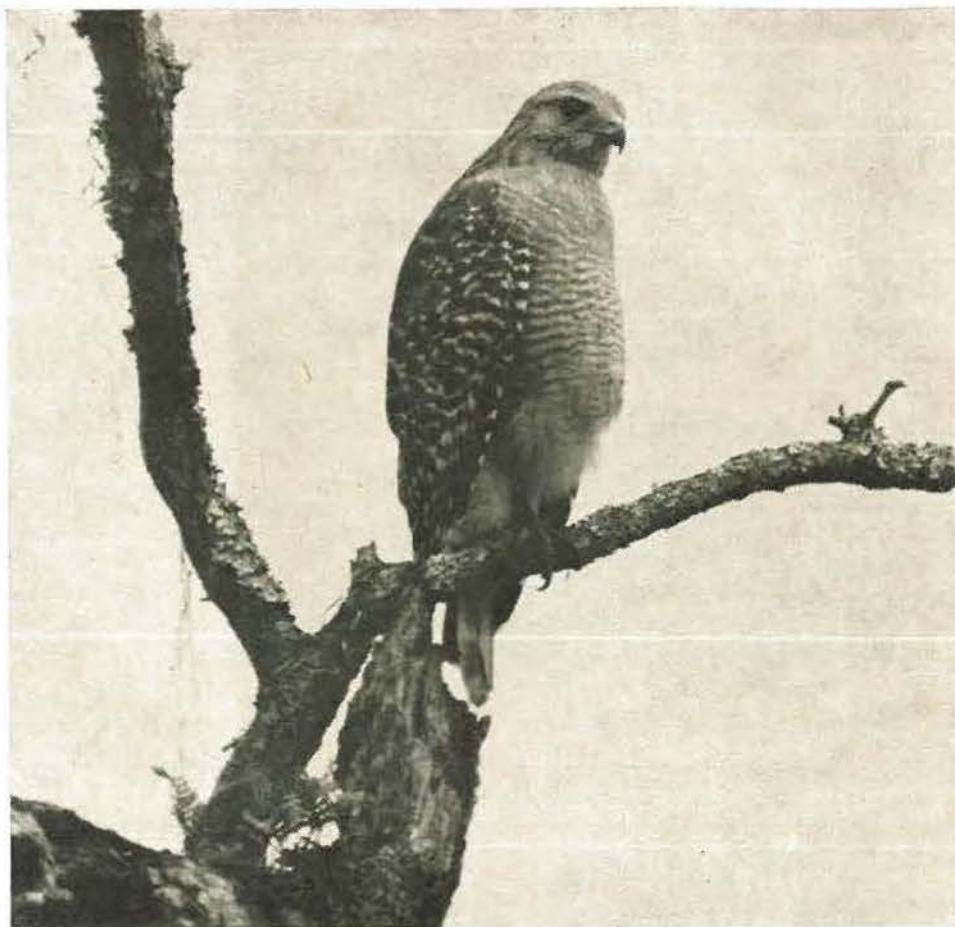
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JANUARY, 1970

centuries ago a small band of Myaca Indians discovered what is known as the Myakka River—and taking good advantage of the streams and lakes abounding with fish, plentiful game and birds, plus moist and fertile soil, the tribe soon grew rich and powerful . . .

—Division of Recreation & Parks



Exploring Myakka State Park



PERCHED HIGH in a tree bordering a fire lane in Myakka River State Park, the red-shouldered hawk gave us more or less the cold shoulder as we watched him through our binoculars. Eyes down-cast, his head moving back and forth, he was too intent on trying to spot a passing mouse—or maybe a smaller bird, even a frog—to pay us much heed. Once, as Tom began moving up with his 300mm lens, he glanced in our direction. We froze. Then, apparently satisfied that we, on the one hand, were too big to eat and, on the other, had no designs on him, the hawk went back to his hunting.

It had been a different story some months earlier, back in the spring. Then, near the same spot, a hawk—perhaps the same one—had “dive-bombed” us, his frantic screechings giving evidence that we weren’t welcome. We spotted the nest high in the tree whose shade we had picked for a coffee break.

Another time, we sat and watched a clearing until the deer came. It’s one thing to “see” a deer

Lucia examines wild flowers growing on a “path” branching off from fire lane. Notebook recordings of “discoveries” are carefully made—for later checking in reference book.

just before your footsteps scare the animal back into the woods or to catch a glimpse from your car window. It's another to wait in the wilds and see what deer do when they don't know you're around. (As is the case with most wild creatures—they eat.)

We have been exploring Myakka River State Park this way for nearly a year now. The park's attractions, from bass to birds, make it, to our minds, one of the most fascinating outdoor spots in Florida. Almost every Saturday or Sunday we drive

the 17 miles from our home in Sarasota eastward to Myakka Park. Once inside the park, we leave our car and—armed with cameras and binoculars—head out on foot along one of the fire lanes or service roads.

We don't see many people—even on those weekends when the park is teeming with campers and picnickers, and the bass are biting. The park draws a quarter million visitors each year, but only a scant handful see it the way we see it. Few visitors,

(Continued on next page)

Red-shouldered hawk, left, glances briefly in our direction, and then—satisfied that we're not a menace—returns to his hunting. Hiking service roads, right, are closed to vehicles, and can lead to "rewarding discoveries." Cattle egrets are shown riding backs of young deer, below, in early fall.

By TOM and LUCIA TAYLOR



Photos By Tom Taylor





Photos By Tom Taylor

(Continued from preceding page)

other than fishermen, venture far from the boat basin, the picnic areas, the campground and the park roads.

In fact, we were brought up short by a letter to the editor in the Sarasota HERALD TRIBUNE one day last summer deploring the crowds at Myakka Park the previous Sunday. What stopped us was that we had been at Myakka Park that day and, once we left our car, we didn't see a soul.

The sad thing is that there's so much that can't be seen from a picnic bench—and plenty of room in which to see it. The park covers 28,875 acres—the largest land area of any Florida state park—and only 1,500 of these acres fall into what might be called the "developed" category. Another 800-to-1,000 acres are set aside by Capt. L. G. Burnett, the park's dedicated superintendent, for a reforestation project. (He planted 135,000 pines and 8,000 West Indies juniper, or red cedar.)

The rest of the park is wild. Some of the acreage is set aside for ecological studies—but most of it is readily accessible to anyone willing to do a little exploring on foot. The fire lanes and maintenance roads are closed to cars—but not to hikers. Branching off from them are short "paths"—basically animal trails—which can be followed briefly for a closer look at woods, hammock or marsh. These "paths" are not recommended for hiking and not to be followed far; we find them useful for keeping our bearings when we step off the fire lane or service road.

Every walk brings its special discoveries, its

deeper insights into the world of nature. It may be a hawk at his hunting or a deer at breakfast. Or it may be a "discovery" that would be old hat to a long-time Floridian, but delights us as comparative newcomers—for instance, an air plant high overhead or a wild flower we have never seen before. We have seen wild turkeys scurrying through the woods, and egrets and ibises taking their ease in remote marshes.

Once we heard crows raising a commotion and, knowing that crows will give owls a hard time, we went into the woods to investigate. (We checked warily first because crows will also scold snakes. But this time the object of their attention was high in the air.) We were rewarded. There was a "whoosh" of wings right above our heads, as the harassed owl sought a new retreat. We caught only a glimpse, but are sure it was the great horned owl, comparatively rare in the park—even though the barred owl is more common there.

Another day, we decided to take a chance when a softshell turtle ambled our way. They bite—but, hoping this one was friendly or that we could move fast enough if he wasn't, we investigated closely. He didn't seem to mind as we snapped his picture.

One fire lane will always be to us "where we saw the raccoon." Raccoons are common enough, of course, but this one, sniffing out the roadside ditch for frogs or whatever he could find, was so intent on what he was doing and where he was going that he failed to see us. It was far different from the usual encounter with the raccoon as camp-

ground pest. And we, in turn, were so intent on watching him that we struck out as photographers. By the time we remembered the cameras, he had spotted us, from about 20 feet away, and the only memento we have is a color slide, for what we call our "fun file," of the north end of a raccoon rapidly heading south.

We have no monopoly on "special discoveries." One fall day we encountered two teen-aged boys

on bicycles. Their faces were flushed with excitement and their eyes gleamed as they told us about seeing a herd of deer crossing a clearing.

"The does went first—then the buck. He stopped—and just stood there and looked at us. He must have gone six points!" the boys exclaimed.

If you're not up to hiking or bicycling, you can still see and savor more than most, merely by venturing a few feet from your car. It was in a marsh right next to the park road we discovered cattle egrets riding on the backs of deer.

There are tours, too, both by boat and by trackless train. In fact, the bird rookery in a remote corner of the park, where thousands of birds come to roost at sundown, is virtually closed to the public except for authorized vehicles such as the tour train. (If you care to hike, it's a 14-mile round trip—and you'd have to get permission, sign in and sign out.)

"This park literally seethes with nature," is the way Captain Burnett puts it.

Nearly every animal native to Florida—and some non-natives—lives somewhere in the park. We have spent many a fascinating hour "stalking" everything from deer to armadillos. Wild pigs—descendants of hogs the Spanish let loose, mixed with domestic strains first introduced around Tampa during the Civil War and long since gone wild—haunt the roadsides in spring, bumming food from park visitors. Later in the year they seem to be back in the woods eating acorns—and their shyness when your path crosses theirs proves their wildness.

The pigs have done us a favor, too. They have
(Continued on next page)



A wild turkey, above left, scurries deeper into the woods. A white-tailed doe, above, rests easy, unaware of the camera "click." Alligator lily, right, is one of hundreds of wild flower species we have "located."

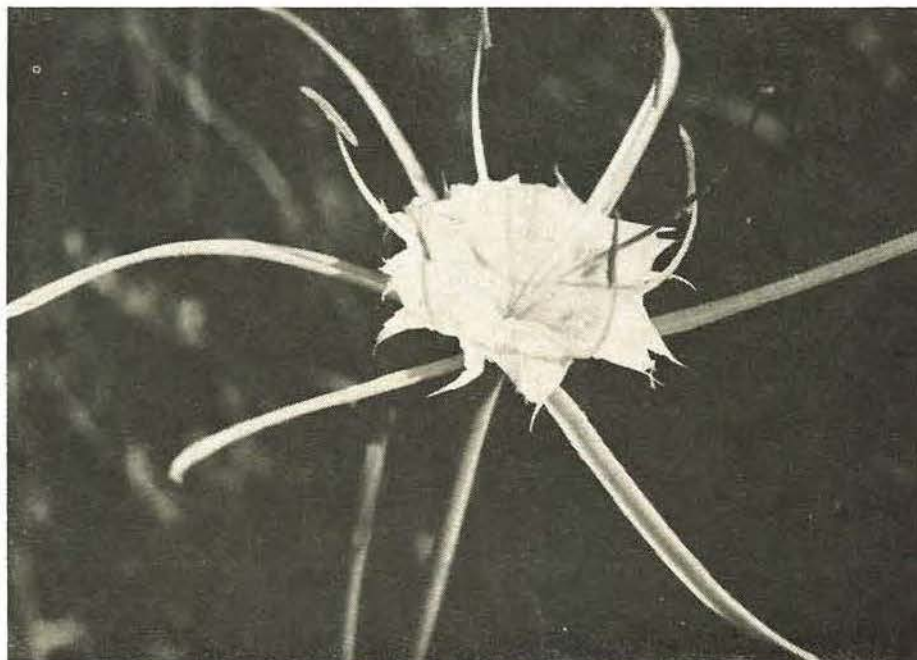




Photo By Tom Taylor

The American egret, above, is only one of the many water birds finding haven in the marshes of Myakka River State Park. More than 200 species of birds have been recorded.

(Continued from preceding page)

pretty well cleaned out the rattlesnakes and moccasins, making exploring a little less hazardous than it might be in many places in Florida. Of course, "hazardous" is relative, and we don't go plunging blindly into the palmettos. We keep a wary eye open. But Captain Burnett says in two and a half years he found only two rattlers in the populated part of the park. The only snake we have ever seen was a harmless indigo.

They've counted 209 species of birds in the park, from the water birds that haunt the Myakka River and Upper Myakka Lake, to warblers, to hawks and owls, to buzzards.

We have a friend back in Chicago who characterizes Florida as the home of "outlandish birds." We'd pick a different adjective—but we agree it's the egrets, herons, white ibises and wood storks that give Myakka much of its distinctively subtropical flavor, and they are the reason the park has come to typify so much of Florida for us.

The vegetation, too, has the "tropical jungle" look that makes a walk through the woods a more exciting experience than usual.

Sabal palms predominate, along with palmetto palms in two sizes. Captain Burnett theorizes that the tree-sized "hammock palmetto" and the smaller "hog palmetto" are two different varieties. Slash pines and oaks "drip" with Spanish moss. Live oak, laurel oak and willow oak all are frequently found, while in high areas there's scrub oak. Lesser growth includes Carolina ash, water locust, myrtle, pond maple, both American and Florida holly, and numerous bay and magnolia trees.

The fire lanes and service roads we have found run between woods and hammock, giving us a chance to study both kinds of areas.

In late winter and early spring when we first began our explorations, the lanes were lined with staggerbush and St. John's wort, while back in the marsh areas, the wild iris blazed purple. Later, in May, the coreopsis took over, and the open areas of the park seemed like one vast field of yellow. By midsummer it was the different yellow of senna, or partridge pea. But that's only the surface. We have found, literally, *hundreds* of wild flowers not immediately evident to the casual passerby—and usually different from one week to the next.

With all our explorations through Myakka Park, we don't intend to fault the fishing. It's great. Perhaps we have spent more time watching herons catch fish than in catching them ourselves, but we have unlimbered our spinning rods on occasion, and can testify that bass fishing alone is worth a trip to the park. All-out fishermen swear by the park as a fishing hole. Incidentally, reports are the best fishing is often in the more off-beat waters, rather than in the lake near the boat basin. Waders or hip boots can be important equipment.

The fact is, Myakka Park is fairly well known as a fishing spot. Many outdoor-minded Floridians seem to think of the park strictly in terms of bass biting—or of the big one that got away. That's a shame—not because there's anything wrong with Myakka as a place to fish, but because there's so, so much more.

A great part of the outdoor world that is Florida unfolds before us as we leave the beaten path and explore the little-visited areas of Myakka River State Park. ●

Line Length

FISHING

there are some places where the long line is needed when fly casting, but this steady "long distance" business appears to be getting overworked



By CHARLES WATERMAN

I AM PRETTY TIRED of this distance-casting bit where fly fishing is concerned.

Fifteen or twenty years ago, very few anglers had learned to throw anything like distance with a fly rod. I used to give demonstrations then and really popped their eyes by taking a 9-foot salt water fly rod and working out 80 or 90 feet of line. That, of course, wasn't tournament stuff but it was a lot further than most of my audiences had ever watched a fly go.

Rods and lines have improved so much since then that hundreds of fly casters can cast all the line off their reels (around 90 to 100 feet) with favorable weather conditions. Now, of course, by using monofilament or specially made shooting line back of a heavy head, they can cast somewhat further. All of this is fine, except that it doesn't mean much where most fishing is concerned, and 50 or 60 feet is still a pretty nice distance for catching most fish.

But the long line is still the gauge of a fly fisherman in many circles, and has led to a lot of pretty tall stories. The other day a fellow was sitting in my place and telling how somebody could throw 190 feet with an ordinary fly rod. While I listened with what I hoped was polite attention, I was idly leafing through *CREEL*, a publication of the American Casting Association, and noted that one of the world's best distance casters had won a fly distance event with an average cast of something like 140 feet. This kind of casting is the "trout fly

distance," which employs tackle similar to that used in fishing with the exception that the monofilament shooting line is smaller, and the rod has more backbone than most fishermen would care to use.

You immediately wonder why this guy with the 190-foot cast doesn't enter a tournament now and then, win himself a trophy or two, become famous and draw big money as an exhibition caster. Of course, the answer is that he probably doesn't really throw 190 feet. Another possibility is that he is counting the amount of line he has thrown off his reel rather than the actual distance of his cast. Fooling with a new outfit awhile back, I found that I actually threw 140 feet of stuff off the reel. Length of the cast? Less than 120 feet.

What happened was that, in order to get distance, I had thrown my line high into the air. The cast had "died" up there and had fallen almost straight down. More than twenty feet of the line I had thrown out was festooned in between my feet and where the business end landed. Did I throw 140 feet? I would have if the cast had "turned over" properly.

Anyhow, the distance casting business is badly overworked. Last summer I was thrown in with a bunch of excellent trout fishermen up north. They had become so obsessed with throwing a line for a mile that they'd almost forgotten their primary objective—that of catching trout.

(Continued on next page)

Most fly fishermen can use some instruction in casting, although distance is sometimes overemphasized. These fishermen are learning some finer points of roll-casting from Orvis instructor Don Williams in Montana.



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There are some places where the long line is needed. The big western steelhead streams need long casts for the line to get out where the fish lie in heavy water. The same goes for some of the bigger trout streams when streamers and deep-going flies are used. Some of the salt water fishing in Florida needs a fairly long line but seldom more than 100 feet; usually 75 feet is enough. Anyone with normal reflexes can throw 75 feet with a little practice. That is an abundance of distance for nearly all bass bugging. Some very successful bass buggers can't throw more than 50 feet.

But most of the super-casts are a result of careless measurements or "guesstimates." It's a little like the pistol shooting business. Long time ago, I used to shoot in pistol tournaments and many times have heard of how some local wizard could always hit a tomato can at 100 yards (or some such distance). Many times, upon cross-questioning, my informant has said, "maybe it was 100 feet instead."

It is needless to mention that tomato cans come in a variety of sizes, too. For all I know, they may sell them in barrels. I'm sure they sell them in gallon cans.

Anyway, I'd rather not hear any more about fly casting distance unless the wizards in question are willing to put up an entry fee and cast in a tournament or two. There are hundreds of fly fishermen today who can throw for a hundred feet—not many who can throw for 120 feet—and danged few who can throw for 140 feet. But 80 feet is enough.

SPECKLED PERCH (crappie) are so often caught from the depths, and have a reputation for staying so near the bottom, that plenty of artificial lure fishermen consider them exclusively a deep water fish. Late winter and early spring are the most popular times for Florida specks, and reports of their scarcity or abundance are pretty inconsistent.

Crappie fishermen tend to fish the same spots year after year, and it's true that certain areas may be good for long periods, but one friend of mine was murdering crappie in the shallows a couple of years ago while most of the fishermen were fruitlessly working deep water and complaining the fish weren't around any more.

In late winter and early spring, I have seen great strings of crappie taken with small jigs and spinners

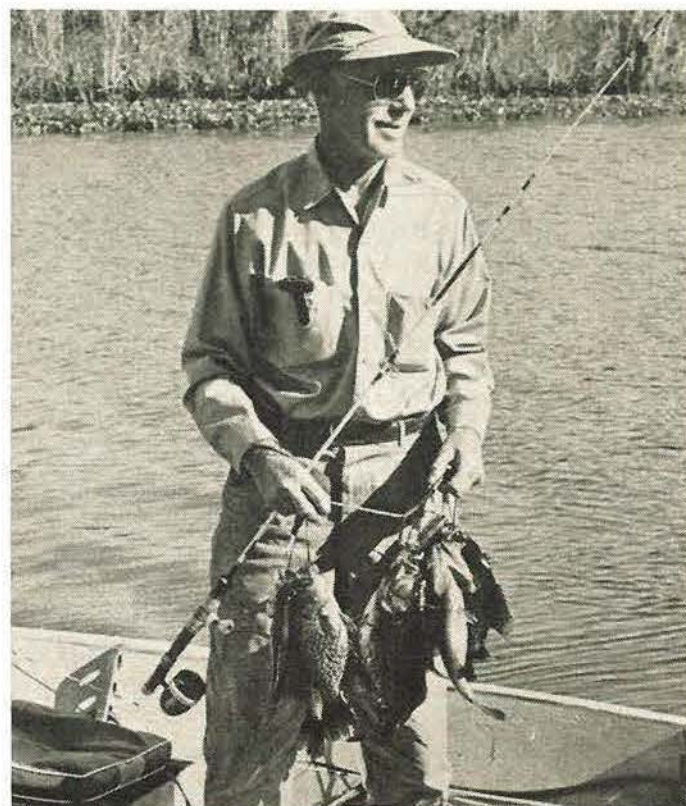
in water no more than a foot deep along the edges of deep rivers. As in deeper water, they tended to come in bunches. A light spinning outfit is ideal, with something like 4-pound-test monofilament line. Such gear allows the spinner or jig to produce free-wheeling action.

If you're casting light jigs, the best results will come from slow manipulation, bouncing them along the bottom with gentle lifts and drops of the rod tip, the reel handle turning slowly. The lure is often taken on the drop back and the "strike" will come very gently; sometimes the lure just fails to reach the bottom as you drop it back.

If the hook is reasonably sharp, you can set it with only a prompt lift. A jerky hook setting may break your light gear or pull out the barb. The crappie isn't called "papermouth" for nothing and the fish should be played pretty softly.

However, one of the most successful speck fishermen I know works his little spinner and marabou fly pretty rapidly and steadily. He keeps saying he works it slowly but it must move right along to stay off the bottom. He keeps his rod tip down near the surface. How fast does he reel? Well, to give a rough idea, he turns his spinning reel handle all the way round about once a second. Of course, there are a lot of different take-up speeds but that description gets pretty close to the matter. He often allows his spinner to sink before beginning to reel. In only a couple of feet of water, he has to begin reeling promptly.

He uses very sharp and very small treble hooks.



A good string of perch (crappie) and small bass taken on light spinning tackle during late winter in Florida.

If the fish doesn't get hooked the first time it strikes, he simply keeps on with his retrieve, seldom setting the hook hard enough to lift it out of the water if the fish lets go. The same fish may strike two or three times before getting hooked.

He is a strong believer in short casts, and keeps very close to brushpiles and other cover, picking up quite a few bass along with his speckled perch. If he catches one fish, he tries to keep the boat away from the spot and makes slightly longer casts to avoid spooking what he hopes is a school. He moves on promptly if the fish stop striking in any given spot. It is by constant patrolling that he locates his fish.

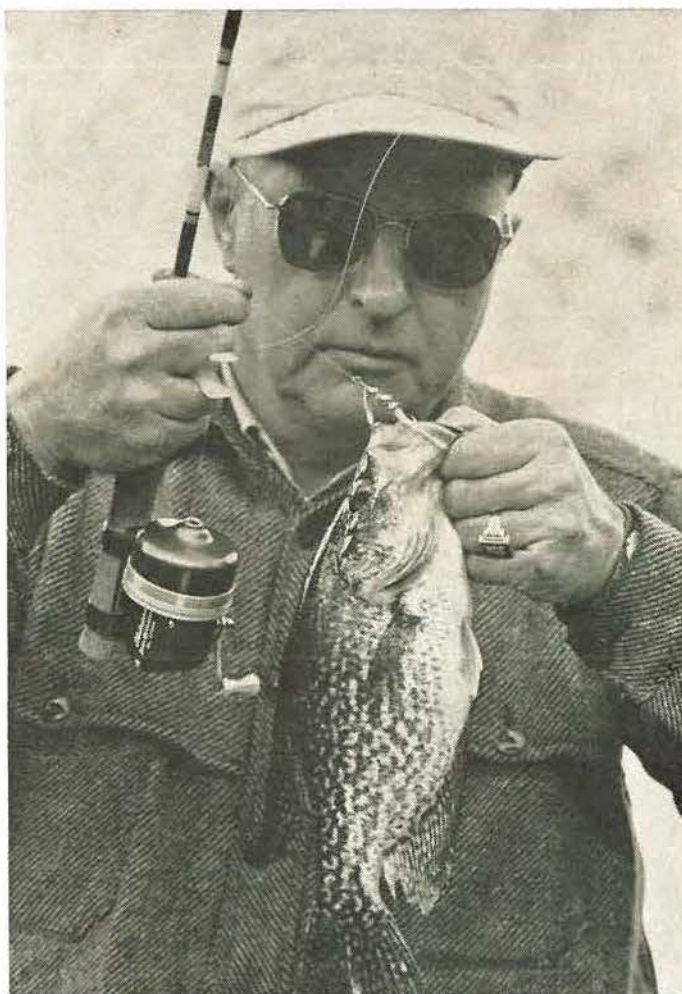
As spawning time approaches, the specks concentrate, of course. More crappie are caught on minnows than on artificials and in some areas that seems the only satisfactory method. In other waters, the careful user of artificials can catch many more bass than the minnow fisherman, usually because he keeps moving. Maybe the most deadly speck fisherman of all is one who uses minnows and keeps moving too.

Although I make no pretense at being a crappie expert, I have adopted my friend's methods with considerable success—not catching as many fish as he does, but doing pretty well. In fact, I got pretty cocky about it and when I visited the mouth of the Kissimmee River at Lake Okeechobee, and saw hundreds of fishermen catching thousands of specks on minnows, I figured it could be done just as well on artificials. I proved that I couldn't catch a single speck; but the water was muddy at that time. It might be different if it had been clear. I know lots of Okeechobee specks are caught on artificials, but there must be hundreds caught on bait for every one that takes a fake.

A landing net is pretty nice to have along if you really want to stack up the specks, and are using light spinning tackle with small hooks. One of the critical points in crappie fishing comes when a good-sized one is hoisted to the top of the water and starts flopping there; good time for the hook to pull out. Many real whoppers have been lost there.

No crappie is going to pull you overboard but it takes a little finesse to play a big one on light tackle. Generally, it's a matter of knowing how much pressure you can put on to keep the shiny rascal out of the brush and still avoid wrecking your gear. They won't really jump, although one will occasionally follow a lure to the surface and do a sort of skittering act that comes pretty close to a true takeoff.

If you really want a big one, let him do his fighting below the surface and he'll soon come up on his side with light pressure. Holding him on the surface where he can flop while still fresh is bad



Ultra-light spinning tackle and spinner-fly combinations are hard to outfish where speckled perch are concerned.

business for you're dealing with a fragile mouth. A tired crappie generally quits all at once.

A fly rod with a sinking line and a tiny spoon or weighted fly is a sporting method, but seldom as good as spinning tackle. A long cane pole with a little spinner-fly combination, or small jig, will work very satisfactorily.

Of course, crappie will occasionally hit on the surface and they can be caught with small surface lures—but the best fishing is generally further down.

Lots of Florida anglers simply don't bother with any other kind of fishing.

A LOOSE LOOP in the lure eye to give the bait free action is very important for some types that depend on small, vibrating wiggles for their attraction. The common bowline works but subtracts from line strength. One good fisherman has worked out a doubled bowline that takes a lot of strain. Of course a good snap, with or without swivel, will give free action on bigger plugs. It is hard to get a strong snap that won't be too heavy for very light stuff.

There is a reason for the loose ring on some jigs and plugs, the manufacturer going to a little extra expense to make sure customers don't snub the action out of their pets. ●



The animated Towhee is always doing something—if only lifting and flipping its long tail. The female, above, is brown where the male, at right and below, is jet black. Some Towhees have red eyes. These yellow-eyed "models" posed for the photographer on his home patio.



Friendly Towhee

Photo Story
By WALLACE HUGHES



YOU PROBABLY KNOW the Towhee, though, perhaps, not by that name. It is one of those common birds of both woodland and garden, one that has not been intimidated by the encroachment of civilization into its ancestral habitat.

In fact, it might be that this bird has prospered because of man's manipulation of the landscape—and it shows its appreciation by coming boldly to our doorsteps. It is a downright friendly bird! In city shrubbery and brushy wilds the Towhee successfully lives and raises its young.

The distinctive voice of the Towhee commands attention, and the bird is often heard before it is seen. Its name is a word description of its frequently-uttered call note, "to-HEE . . . to-HEE." Some folk, though, think the note sounds more like "jo-REE," a common name for the species in the southern states, but pronounced JO-ree.

The Towhee, or Joree, as you prefer, spends most of its time on the ground, beneath and around thick shrubbery and vine tangles, scratching vigorously among the leaves and debris in search of food: insects, wild fruits and berries, and seeds of weeds and grasses. It is a most industrious bird, never ceasing to be active at food-gathering. It is one of the first of the early birds to be about in the moments just before dawn and the last to be seeking a roosting place in the gathering darkness at the end of the long, busy day.

In the spring, the male flits to the top of a bush or low tree to sing his nuptial song and proclaim his nesting territory. His love song sounds like, "cheet-cheet che-e-e-e," with the last note lower than the first two.

Towhee nests are placed in low bushes ordinarily,

but occasionally a pair will nest on the ground under a palmetto frond or other dense cover.

The normal clutch of eggs is three, and they are colored white with fine speckling of reddish brown. Three broods are commonly brought off per season; one in April, one in June, and one in August.

Male Towhees are quite handsome birds with black upperparts, reddish sides, white bellies, and either pale yellow or red eyes. The female is marked the same, but has brown upperparts instead of black. The young bird of the year bears no resemblance to its parents—except in behavior. It is brownish black with a suggestion of streaks on the breast. The most notable difference, though, is that the young birds have black eyes.

Towhees come in three varieties. The Red-eyed Towhee ranges from Canada to north Georgia and central Kansas; the Alabama Towhee, whose irises are normally red or orange, is found in Louisiana, Mississippi, Alabama, central Georgia, and north-west Florida; and the White-eyed Towhee is the one that resides year-round along the Atlantic coast from North Carolina through peninsular Florida.

Towhees with red eyes are common in winter over much of northern Florida. In the spring, however, they drift back into the interior, leaving most of the state to their white-eyed kin. ●



A young Towhee, above, has dark eyes and lightly streaked breast. Note the stout, conical bill of the handsome male, below, typical of seedeaters—such as finches, sparrows, buntings and grosbeaks.



bird carving

By GENE SMITH



Photos By Wallace Hughes

TO MOST, the phrase "carving a duck" conjures up the savory image of a pending feast of waterfowl, fresh from the oven. But there's more than one way to carve a duck, and if you've peeked at the accompanying illustrations you already know this is *not* a "how-to-dismember-a-roast-duck" article.

Not long ago, we visited a south Georgia bird carver to learn, firsthand, something of the fine, and very competitive, art of creating the lifelike forms of ducks, shore birds, song birds, and others, from wood.

The art of duck carving extends beyond the making of a duck hunting block. Birdcarver Jim White is shown here with some of his work: above, quail; left, yellowlegs; below, buffleheads. Two shore birds, lower right: sanderling on a shell, and stilt sandpiper. Far right is familiar wood duck drake.





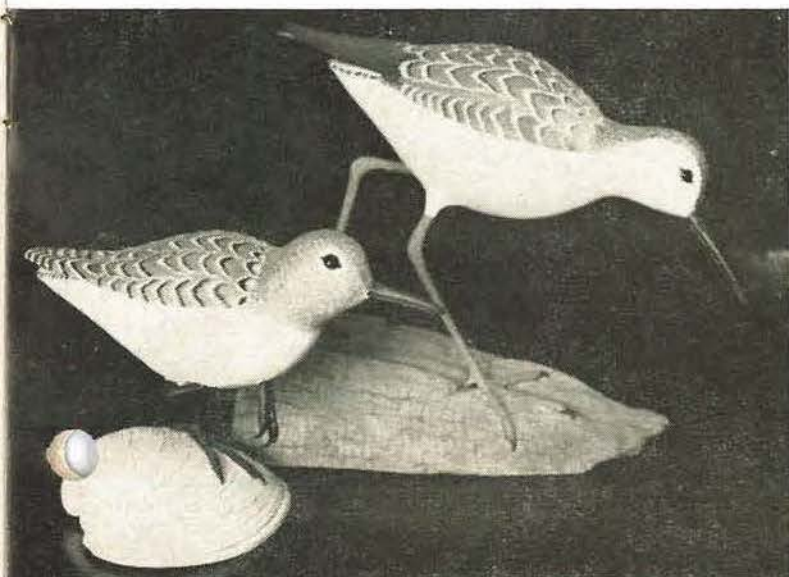
Photo By Gene Smith

James W. White of Cairo, carves for a hobby. He has been at it for less than a year, working nights and weekends when he feels like it. He is very knowledgeable of the ins and outs of bird carvers all over the country and can rattle off names of great ones, both amateur and professional.

He is a member of the National Woodcarvers Association, and scattered around his premises are



many copies of such publications as the quarterly magazine, "North American Decoys—Wildfowl Carvers and Collectors News," and programs from The International Decoy Contest, held annually at Davenport, Iowa, The U.S. National Decoy Show, Babylon, New York, and the Atlantic Flyway Wildfowl Carving and Arts Exhibit, which held its
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second annual show at Salisbury, Maryland, in October—and attracted some 70 carvers and artists. Many were “pros,” who follow all the big shows, buying and selling between themselves and collectors as they go. Others, like Jim, who plans to enter the U.S. National Show in March 1970, are amateurs, who only have to compete for honors among themselves. Junior carvers also have their own division.

But don't let the term “amateur” mislead you. From the work we've seen, Jim's and other carvers' as well, many of them could turn professional if they so desired. They certainly sell their work without too much effort.

Jim says while he carves mostly for fun, there is always an order pending. There are callers who see his work, or hear about it, and want to buy a bird or two—sometimes ordering a favorite species; sometimes picking out something from already completed birds.

Although he is a newcomer to the ranks of bird carvers, Jim has been “exposed” to the art for a long time. His brother, Bob White of Bristol, Pennsylvania, is a well-known carver. He has been at it for 10 years or so and has won several competitions.

But there is little advantage to Jim in his brother's artistry, since they only get together to compare notes—and work—a couple of times a year.

Jim's output was a little amazing to us—in view of his other hobbies, hunting and golfing, and his part-time working arrangement at bird carving.

His list of species completed reads like a bird-

watchers life list, and he has carved many individuals of some species: wood duck, ring-necked duck, hooded merganser, red-breasted merganser, ruddy duck, bufflehead, blue-winged teal, sanderling, lesser yellowlegs, the spotted, white-rumped, stilt, Baird's and least sandpipers, woodcock, bobwhite, and cardinal. Also, he has done a number of decorative, one-legged shore bird “confidence decoys,” a type still used for hunting shore birds in some areas, but now more popular in sets of three birds for ornamental use.

Jim's work won a first premium “blue ribbon” at the Grady County Fair in October—the first of his work he has exhibited anywhere. His favorites



are wood duck and quail, and he puts real quail toenails on the finished bobwhites—saved in the freezer from hunting season kills.

Suppose you want a wooden bird for your den or living room. How much can you expect to pay for it? Anywhere from \$15 to \$350, depending on who carves it, how much goes into it, and who's buying.

Jim White sells hollow duck decoys (made of three pieces of wood, two for the body; one for the head) for \$15. Solid body decoys are \$25 and up, depending on the time invested and the detail included. He uses redwood for the bodies and white pine for the heads.

Shore birds, which require more time and skill, range from \$25 to \$50 each.

Some of Jim's birds are usually available at The Little Store, a Thomasville, Georgia, gift shop.

Life size decoys from the "masters," like Steve and Lem Ward, the famous bird carving brother team of Chrisfield, Maryland, regularly bring from \$200 to \$350 each—and they can't keep up with back orders.

According to the catalogs we've examined—and it was verified by Jim, the smaller the carving, the more they sell for.

Pairs of miniature ducks, for example, normally bring \$75 to \$750, depending on the artist who did them. Single miniatures start at no less than \$25 each, most a little more.

Collectors of decoys clamor for antique blocks, especially those in "mint condition." Often the collector can spot a rare decoy among a lot of worthless stuff, and if he's casual enough about it he can pick up a \$1,000 bird for six or eight bucks.

"It's like any other antique business," says Jim. "People get skinned at it every day."

Competitive decoy carving got its start on Long Island in 1923 in an effort to encourage shooting ducks over decoys rather than as they came to roost at dusk. The first show was held by The Howell's Point Anti-Duskers Society, Bellport, Great South Bay, L. I.

The waterfowl conservation aspects of carving are not lost to Jim White either, for when he is not hunting ducks or shaping their likenesses from wood, he is building and erecting wood duck nesting boxes in areas near his home, a proven way to help keep 'em flying in your own neck of the woods. ●



Photos By Gene Smith

From rough woodstock, above left, White saws his basic shapes. From there, it is all hand work—delicate carving, sanding and shaping. Then comes finishing—in wood grain—like the confidence decoys, left, or in true-to-life color patterns. Bobwhites are Jim's favorite subjects. His very first carving was a quail.



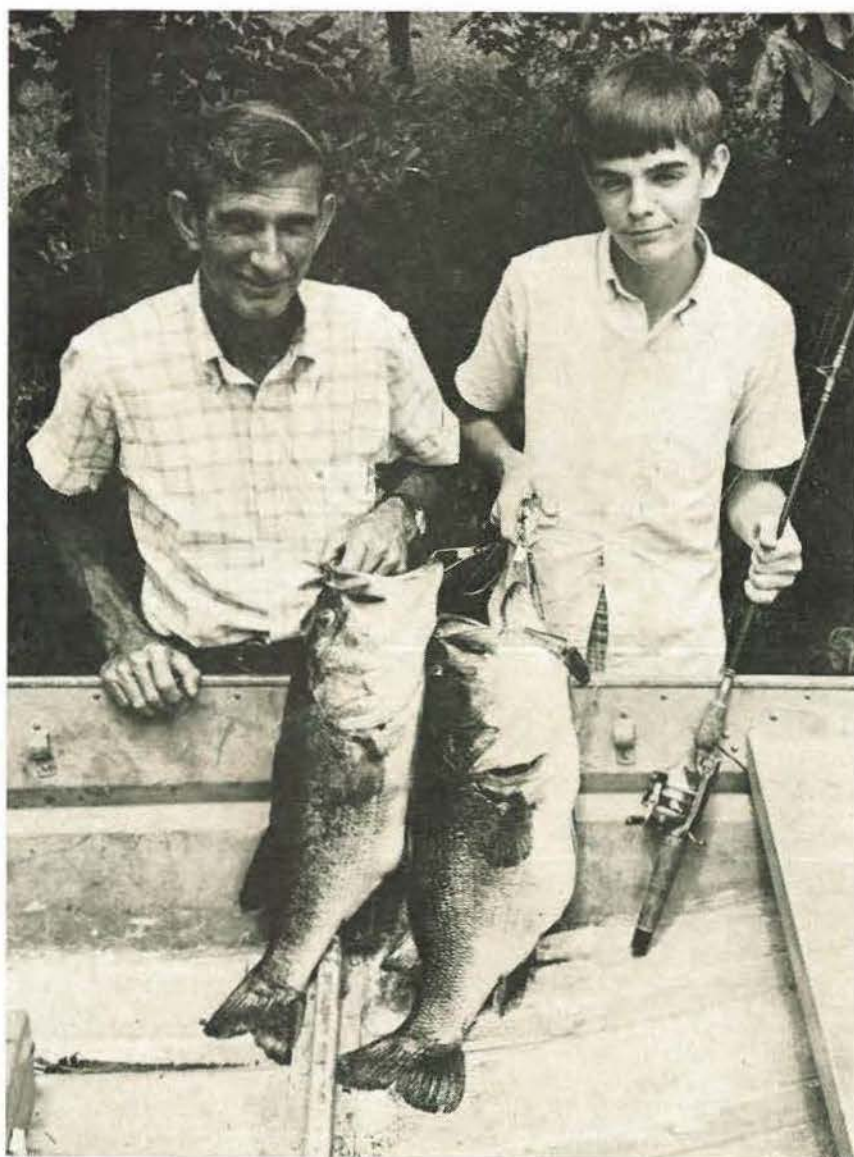


Photo By Wallace Hughes

more and more fresh water
anglers want to know

how to catch a Big Bass

By CHARLES WATERMAN

I DO NOT SAY that fishermen interested only in big bass are always the best bass fishermen, but I do say they are a special breed. There aren't very many of them but everybody gets a big bass hankering from time to time, and should be willing to learn from the specialists.

Many years ago, the late Norton Webster prepared to crank his outboard motor at Blue Springs Park on the St. Johns River.

"I'll be back in half an hour," he said "I'm just going to try one big fish."

Webster, who generally fished alone, made a practice of locating individual whoppers and studying their habits. He'd keep trying for a known buster for weeks, possibly spending only a few minutes at a whack, but staying with it until his quarry either grabbed something or moved away. Webster, generally credited with originating sports fishing for shad on the St. Johns, was a very careful angler and a full time fisherman. Of course, he caught a lot of bass in the 10-pound class. Generally, he preferred to fish with artificials but would use a big shiner when after a specific trophy.

You might learn a lesson from Webster's rig, too. He used a small boat, easily maneuvered by one man, and quietly operated. He approached known big bass residences with caution. If he didn't get a strike, he'd slip away as quietly as he'd come. There would be another day.

There are quite a number of such fishermen operating today in Florida, and their tactics are similar to those Webster used. Generally, when they fish for a record bass they use methods just a little different, and they don't expect to catch small fish. Almost invariably, the consistent big fish catchers confine their operations to only a few areas and, much of the time, they fish for individual fish. Such methods are likely to gain a fisherman a reputation. One 10-pounder receives more attention than a hundred 5-pounders.

Many of the big-fish experts do their stuff in waters hard-fished by other anglers, many of whom never catch a big bass. It's partly a matter of knowing where the big fish are and partly a matter of fishing specifically for them.

To begin with, the record seeker goes to a lake

or river noted for big bass. You can't beat past performances as an indication. For example, I wouldn't go to Lake Okeechobee for a record bass, although it is one of my all-time favorite fishing spots. Okeechobee simply isn't noted for record bass—lots of fish, of course, but not records. A 9-pound bass in Okeechobee is a whopper, and don't let anyone tell you differently. I have never caught one that big there, although I've boated quite a few largemouths from the big grass pond.

One fisherman, who caught more than his share of the bigger fish in Okeechobee, told me that he always tried to find pockets in the weeds that the other fishermen hadn't disturbed. His theory was

that the lake is so shallow the big fish didn't approve of all that boat traffic in the more accessible weed beds.

"Besides," he said, "a fish that stayed out where everyone was throwing at him would get caught before he got big anyway."

Could be. At least he's partly right.

But I wouldn't pick Okeechobee for a record. If you study the books, it appears that northern Florida and north-central Florida are more likely to produce bass weighing over 10 pounds. And some of the biggest fish come from lakes or streams that have gone downhill from days when they provided large numbers of fish. Biologists have known for a long time that some of the "poor" fishing lakes contain a few enormous fish.

Now a student of big bass may catch them at any time of the year. The fellow with only average knowledge of their whereabouts will do better in late winter and early spring. It's a simple matter of the big ones being hungry (in preparation for spawning), and being scattered over a wider area looking for groceries; or, being in the actual spawning routine and hence located in shallow waters where they may be easily reached or even sighted. So, unless you know of a big bass address, you'll have a better chance before things warm up.

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Photos By Charles Waterman

North and central Florida waters are where the really big bass can be found. H. P. Bradley and son Hugh, far left, display a catch of good size largemouth landed from Lake Jackson, north of Tallahassee. Joe Kenner, left, a former guide, with whopper from the St. Johns River. Specific residences of big bass are worth careful efforts. The bait fisherman, below, has located some type of a "good pocket" in what appears to be mid-river.



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Time of day for big fish? Well, in warm, clear weather it's undoubtedly at dawn and dusk, a simple matter of fish getting out and moving when the sun's heat lets up a little. When days are cloudy, fish may move at any time. When the weather is cool or cold, I don't see much advantage in very early or very late fishing.

I have caught more of the larger bass around 4 p.m. than at any other time of day during late winter, other factors being equal. This has happened so often that it becomes a pretty clear pattern. I am not discrediting tide tables or any of the other things that make fish strike, or refuse to strike. I simply say that, other things being equal, I've hooked more big fish a little past the middle of the afternoon than at any other time.

Now these theories and facts of fish movement are more important with big fish than with small fish, simply because a big fish is lazier, moves slower and conserves his energy. Therefore, it is common sense to watch the factors that may be of minor importance with smaller fish.

I now present a thought that is almost directly opposed to my past theories and it's this: A truly big fish may be a nonconformist or he wouldn't get so big in the first place. He would have to be some sort of offbeat weirdo, some folks say, to weigh 15 pounds since most bass pass to their rewards when much smaller in stature. Well, anyway, I *still* catch the bigger ones in early evening.

A fellow who fishes a single area for long periods has an enormous advantage because he knows from experience the areas where a big fish may be found year after year. Catch one and another will take his place—maybe not exactly the same size, but a pretty healthy specimen. I know of a couple of type spots (no more than ten feet across) that

produce some pretty good fish every year. Generally, a careful study of the area will show why.

Let's take one of those spots.

The water is about three feet deep and there is a good crop of eelgrass on most years, but it does not get thick enough to hamper a fish too much. The spot is something of an underwater ridge; on one side of it is briskly moving water where bait is likely to pass. On the other side is deep water where an overweight bass could sulk during a cold snap or a hot spell. On the edge of the fast water is an old piling that has caught up some debris and generally holds a raft of hyacinths. Not too far away is a sand bank where bass are known to spawn.

All of this is located so close together that a big fish could get from one type of water to another with a dozen switches of his tail. I would like to say that I figured all of this out and then caught a big bass there, but I never noticed what kind of a place it was until I'd caught quite a number of fish—a little like solving a mystery by reading the last page first.

There are things to remember about a big bass. First, he spends most of his life near the bottom; secondly, he isn't nearly as spry as his younger relatives; thirdly, he isn't a *he* at all, *she's* a female or she wouldn't be big. Remember too, that she wants to be near some kind of cover or deep water or both. In hot weather, she is looking for a cool spot (such as a spring). In cold weather, she is looking for a warm spot (that might be the spring again).

The big bass (let's call it a *him* instead of a *her*, even if we know better) cannot compete with smaller fish for fast-moving food. Where river bass school on baitfish, it's usually the small fish that you catch "on the jumps."



Buddy Nordmann, left, of DeLand, with good size bass taken from weedy waters. A big bass, above, taken in late winter from shallow eelgrass flat.



Photos By Charles Waterman

"Whoa," says the jump fisherman. "What about the 10-pounder I caught knocking the stuffing out of a 9-inch shad?"

Well, friend, your big bass had that size of bait all to himself. The smaller bass that knock the scales off that little stuff couldn't eat a 9-inch baitfish, and wouldn't even try. It's mighty unusual to catch a bass of more than four pounds clobbering surface bait less than four inches long. Two reasons. First, the competition from smaller fish would probably be too great; second, the big bass simply can't move fast enough to catch that little stuff unless he can get it penned up against something like cattails or smartweed.

When I first came to Florida and the school bass fishing was going good, everyone I knew was fishing for bass that were actually on top lacing the schools of bait. I can't recall many large fish being caught that way except for a few widely scattered locations where fish struck only large bait—and, consequently, were larger fish.

Then came the system of fishing below the schooling spot, getting a lure down to the bottom where fish were resting between rallies. Of course, careful anglers caught a lot of small fish that way but they'd occasionally get a really big one. The theory

is that the big fish wasn't agile enough to compete up on top for the skittering bait fish, but was quite capable of scooping up the dazed and damaged bait that sank to the bottom after an onslaught by smaller, swifter bass.

The bottom lures were mostly small spoons, then jigs, and then plastic worms. The plastic worm may not be the sportiest lure going but it's certainly one of the most effective. It's especially good for big bass because it is a large, worthwhile piece of plunder, moves very slowly, and is unlikely to be rejected by a nibbling fish since it still feels like something to eat after he has it between his jaws. So again, we come to the business about big bass moving slowly. The slowly-moved lure is most likely to be successful nine-tenths of the time. If there weren't exceptions to all of these rules, fishing wouldn't be fun.

Admittedly, big bass are a little reluctant to come to the surface for a bait, especially if it is small. I have been very dissatisfied with my popping bug results on really big bass. Oh, I've caught a lot of fish but the bigger ones seem to want a bigger lure. The explanation can be that any fish that weighs eight or ten pounds would spend too much energy to make a small bug a worthwhile target. There is one hole in this reasoning, though. I have found that medium-size bugs catch more good fish than do really large bugs. To make it more complicated, I'll state that large, baitcasting type plugs have caught bigger fish than either size of bug. Don't question the reasons, buddy. Just accept the facts.

Slowly operated surface plugs and bugs have done better on the big bass than have the faster ones, but there have been times when I needed to keep things moving pretty lively to get strikes from smaller fish. Again, I think it's a matter of a heavy bass being unwilling to chase something in a hurry.

It is seldom that a really big bass hits a small surface lure with a big splash. He figures the little dingus doesn't need killing but simply gulping, and that's what he does. The loud splashes don't spook me nearly as much as the businesslike gulps, and nothing makes my neck hair prickle like a big, silent bulge and slow, gentle swirl. Too many times, however, a youthful smart aleck will come roaring out of nowhere and take the lure away from the fish I really want.

There are some cases when it's necessary to work a lure fairly fast to keep it from hanging up in weeds or other undergrowth. This is more likely to take big bass in shallow water than in deep water, simply because a lunker won't take the time or trouble to come 'way up for something that's going like the devil. If it comes past his nose, and

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he can nab it with just a couple of tail shoves, it's a different story.

When it comes to live bait, there are big-fish seekers who use shiners so big it's a sporting proposition to simply land the rig when you haven't had a strike. The big shiner will catch nothing but big bass, simply because the small ones can't handle it—so the record seeker isn't bothered by little fish. Usually, the larger shiners are used in winter time—smaller bait as the weather gets warmer. Some of the best fishermen never use the largest shiners, perfectly willing to catch a few two and 3-pounders along with their busters. The smaller shiner is much easier to trap and less expensive. The most successful big-fish anglers like to have their shiners rigged so that the bait swims pretty freely and so they need something big enough to haul a hook and line around, and probably a bobber of some kind. This business of live bait size takes a lot of study, and local inquiry certainly is important if you're in strange territory. You can get facts, even though there probably won't be much explanation.

If you want to hire a guide or learn a spawning area, probably the best place to catch an enormous bass is on a spawning bed. A sharp operator will survey the area, sight a big female bass on a bed, and then mark the spot if she swims away because he knows she'll be back if the entire premises aren't wrecked. Then he comes back and throws his lure or bait up to the nest. That racks up the big fish and the biologists tell me it does no harm to the bass population because there will be plenty of eggs anyway. I submit that removing a great many very large fish from the beds may not hurt the overall population, but will undoubtedly deplete the local population of whoppers for the time being at least.

So how big is a big bass?

Well, most of the literature in which you read about what you can expect from a given piece of water is out and out prevarication. The sizes of Florida bass are undisputed; their quantity is something else again. A 10-pound bass is very, very large. I know several lifetime residents of Florida who have fished all of their lives with artificial lures and flies and have never caught a 10-pound bass. On the other hand, I know of some live bait fishermen who have caught so many 10-pounders

that they couldn't tell you their score. Generally, these latter anglers were specialists in large bass, and haven't gone for quantity at all.

I call anything over six pounds a big bass. Anything over ten pounds deserves a trip to the taxidermist. Anything over 12 pounds should have its picture in the paper. Anything over 14 pounds should be weighed very, very carefully indeed. When you get south of the north shore of Okeechobee, anything over eight pounds is a real trophy.

I've been asked repeatedly if I think the world's record on bass will ever be broken and I've always said that it's quite possible but that a 23-pound bass would be like a 500-pound man—unusual to say the least. Nevertheless, there have been some 500-pound men.

This big bass would have to grow near the extreme length that bass reach; it would then have to be exceptionally broad and exceptionally deep; it would have to be in prime condition to hold its weight. And it would probably have a full stomach of solid food when caught. This is not impossible but it puts together quite a chain of circumstances, and it would require some luck in addition to ability to catch such a fish. Before Castro took over Cuba, it was believed some record-breakers might be swimming around down there. Undoubtedly, the Cuban fishing was excellent—but nobody ever brought in a record. At present, the Cubans are interested in other things besides bass records.

If you are not a big bass specialist, you will treasure anything over eight pounds. I know I do. I have caught very few 10-pounders. The biggest bass I ever caught was less than twelve. ●

Just how big is a big bass? The author claims anything over six pounds is big. A 10-pounder should go to the taxidermist. A 12-pounder should have its picture in a newspaper—and if it's more than 14 pounds, weigh carefully. A 23-pounder is needed to break world's record.



Fish Management Notes

AT PRESENT RATES of population growth and water quality deterioration along Florida's famed St. Johns River, what will sport fishing be like in that stream in a decade? What quality of fishing will the river and its watershed lakes offer in the year 2020—fifty years off?

These were questions Game and Fresh Water Fish Commission biologists sought to answer when they surveyed present conditions in the St. Johns drainage recently. Based on what they found and on accrued knowledge of the fishery, they came up with some cold, hard projections for the future. Here, excerpted, are some portions of their report.

"The headwaters of the St. Johns River (in Indian River County) may be described as a vast area of marshes with water levels fluctuating seasonally. The designs for this area by the Central and Southern Florida Flood Control Project should create more desirable water levels and fisherman access by 1980. With proper management, populations of largemouth bass, bream, channel catfish, and white catfish should increase. An excellent fishery should develop and remain as long as good water quality is maintained.

"With the absorptive capacity of a marsh for nutrients, even in the year 2020 a good fishery should exist."

The portion of the river immediately northward "is influenced by the tremendous population growth occurring in the Cocoa area. However, the St. Johns River is still bordered by a vast, undisturbed marsh. With the flood control project in effect, the river in this area should provide an excellent largemouth bass and bream fishery until 1980. Rapidly increased demands for domestic water uses in this area, and the unrestricted discharge of various effluents into this portion of the river will cause enriched conditions by the year 2020. As enrichment increases, the present day sport fishery will decline. The reduced water quality will affect the river downstream (northward) to its mouth."

The St. Johns River "from Lake Harney to Lake George supports fresh water fish as well as anadromous, euryhaline (salt water), and other marine type species. There is a slight tidal effect in this area, but chloride (salt) concentrations do not exceed the threshold at which fresh water fish can survive.

"Effluents entering this portion of the river from upstream sources have already had a detrimental effect on the fishery. The reduction in natural water level fluctuations from the flood control projects, the lack of extensive marsh area along this portion of the river, other proposed construction projects now being planned, and the continued unrestricted addition of domestic and industrial effluent to the



St. Johns River fishing will continue to decline the next 50 years—unless we are willing to pay the price of clean water.

river will cause the fishery to continue to be degraded at an ever-increasing rate.

"By 1980, the river and lakes in this area will show expanding numbers of mudfish, gar, gizzard shad, and possibly bullheads. By 2020, the sport fisherman should orient his efforts toward bullheads, gar, mudfish, and pollution-tolerant marine species."

The northern end of the St. Johns "from Lake George to its mouth is presently polluted and greatly altered by man, and is rapidly becoming suitable only for pollution-tolerant fresh water and marine species. The continued abuse of this river for waste effluent removal will cause all desirable aquatic life in this area to be drastically reduced at the 1980 and 2020 levels of development."

According to the report, "These statements should be qualified by saying this is what will happen without implementation of available and future technology which can regenerate, or at least retard the rapid destruction of, desirable aquatic habitat."

Of the portion of the watershed including the Oklawaha River, running from Lake Griffin to the St. Johns and including the reservoirs created by the Cross Florida Barge Canal, the report says, "The major species presently involved in the Oklawaha are largemouth bass, chain pickerel, redbreast, warmouth, spotted sunfish (stumpknocker), shell-cracker, and channel catfish.

"With the channelization of the river from Lake Griffin to the Cross Florida Barge Canal, and the impoundments included in the barge canal project, we expect a drastic fish population change. . . .

"By approximately 1980, the emphasis of the sports fisherman will be redirected toward panfish, crappie, channel catfish, and bullheads as the environment becomes less suitable for the production of largemouth bass and chain pickerel.

"By the year 2020, the sport fishing emphasis in the reservoirs will change to gar, mudfish and bullheads—due to the excessive fertility build-up from agricultural, industrial and domestic effluents." ●



Florida State News Bureau Photos

Apalachicola Oysters

several hundred years ago word was recorded about the tasty oysters found in "inside" waters

A FLORIDA OYSTERMAN stood on the deck of his boat and slid a pair of oyster tongs into the waters of Apalachicola Bay. He dug the tongs into the shelly bottom and brought up a dozen or so of the largest oysters to be found in the Southeast. He smiled and said, "We're growing some right tasty oysters here."

It was only a few years ago, however, that George Kirvin and scores of other Franklin Countians saw their livelihood beginning to die out. Oyster bars, or reefs, which at one time produced thousands of dollars worth each year were not yielding enough oysters to stabilize the market. Many oystermen moved, most of them taking other jobs. But a few began what is becoming the biggest improvement in the history of the oyster industry—oyster cultivation—assisting nature in growing good quality oysters by restoring and "seeding" the reefs.

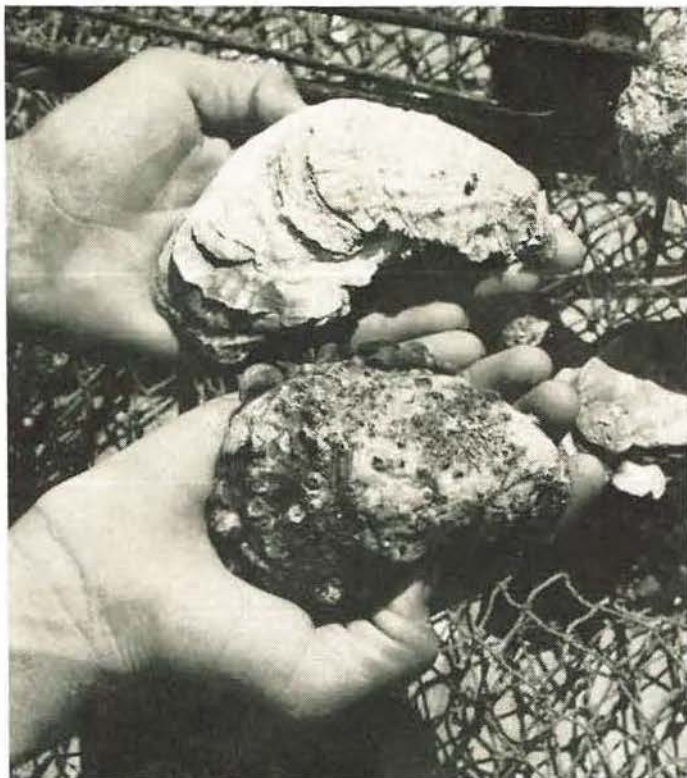
When Florida oystermen began, they found it a *must* to have knowledge of the oyster, its life history, and needs. Too, they needed to know the most productive areas in which to invest their money and labor.

An oyster can change sex. One year it's male; maybe the next, it's a female. They breed by spawning, but fertilization takes place solely by chance. Females discharge their eggs into the water at about the same time the males release sperm. The reproductive process is triggered largely by the temperature of the water, commencing in the spring at around 60 degrees F. and increasing as temperatures rise. (The main oyster spawning season is from about the first of April to the first of November, although some spawning occurs throughout the year in Florida.) Since one female can produce as many as a hundred million eggs in a single spawning, obviously millions of eggs go unfertilized each year.

After fertilization, the microscopic larvae, known collectively and singly as *spat*, travel in the water by swimming and by current flow. After a few days, shell growth begins and the spat becomes heavy enough to sink, after which it soon attaches itself to any firm surface or object it can find. There it remains the rest of its life unless removed by force.

If *spatfall* occurs over soft mud, the result is suffocation of the young oyster. The best *set*, or *strike*, is achieved when the spat land on old oyster shells, clam shells, rocks, or other firm materials, natural or manmade. Any such material that collects spat is known as *cultch*.

If the spat set in clusters, the oysters become overcrowded, competition for food—plankton—is increased, and their growth is hindered. The result will be small, relatively worthless oysters. Similarly,



if spatfall occurs in areas which are regularly exposed to the air and sun at low tide, more small, inferior oysters, called *coon oysters*, are produced. They rarely, if ever, reach the minimum legal size of three inches.

When the young oysters set separately or in small numbers, well distributed, and if many other conditions are favorable, they grow fast and become large, well-formed, commercially valuable oysters—without help. But the only way coon oysters can reach marketable size is for them to be pried apart and replanted in suitable locations, a process known as *culling*.

Actually, oyster cultivation in its simplest form is hardly more than "oyster enhancement," which begins with the planting of cultch in the bay, upon which the spat may attach itself and grow—naturally.

George Kirvin stated that he finds certain seasons better for planting cultch than others—based on oyster spawning. Although spatfall begins while water temperatures are in the 60s, the greater part occurs when the water has warmed to 80 to 92.5 degrees F. It is popularly felt that this is the best time for planting cultch because there will be more oysters produced—though most will be in clusters. Others feel it is better to plant just ahead of the time of maximum spatfall, so more single oysters will occur and growth will be faster. However, since small oysters will grow to full size if broken apart and replanted, men such as Kirvin agree with planting when spatfall is heaviest. Instead of sacrificing quantity for quality, they achieve both

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Oystermen at work on one of the public bay bars, above left—note tongs being used. A display, above, of Apalachicola oysters. At right are shucked oysters ready for washing.

By LEON BLOODWORTH



(Continued from preceding page)

by separating the clusters and replanting the seed oysters.

There was one season when Kirvin and many others, after planting cultch and separating clusters, still lost their entire oyster crop—because of a combination of natural conditions. Their education on the subject of oyster culture was thus furthered!

They found oysters to be very sensitive creatures which, despite their rock-hard shells, are susceptible to the vagaries of the weather and to predators that live in the marine environment.

In Apalachicola Bay there are two pests which periodically present major threats to oysters—conchs, or snails, and leeches, which are really members of a group of parasites called flatworms. There are other enemies of oysters but these are the most damaging, and both require water of high salinity, or saltiness, to thrive. Consequently, they normally present a real problem only during periods of drought on the land, when fresh water entering the bay is reduced, or when tides are excessively high.

The conch is able to bore right through the shell of an oyster to get at the contents, but more commonly it uses its mouthparts to slowly chip away a portion of the *bill* of the oyster (the end opposite the hinge where the shell halves meet). After entry is gained, the conch inserts its long, flexible tongue and thus feeds on the oyster meat.

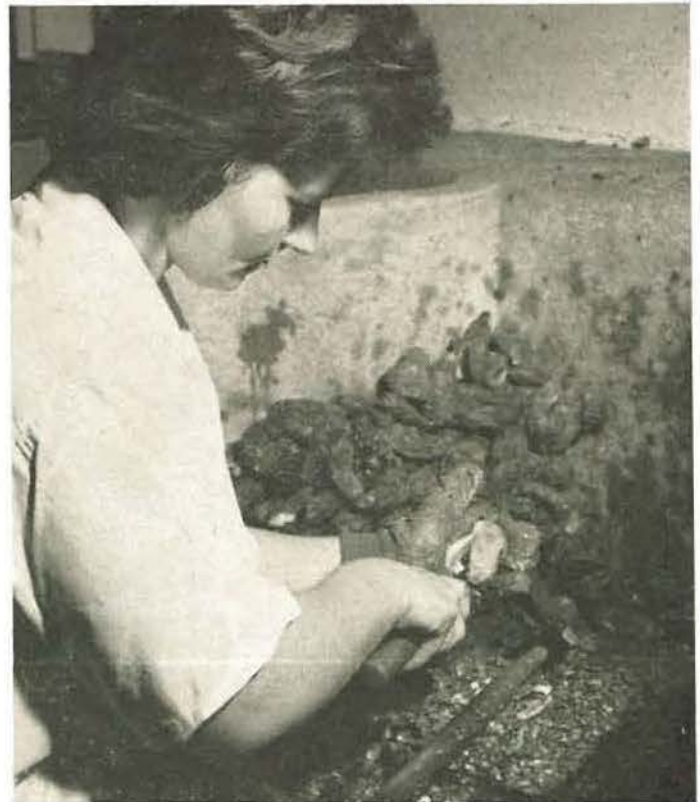
Leeches actually enter the oyster's shell and bed down right next to the meat inside. They cause a gradual loss of vigor and health in their host and are thought to make infested oysters more susceptible to other pests, including disease organisms. Of course, leeches themselves may eventually kill the oysters attacked.

Although various living pests present threats to oyster bars from time to time, Kirvin stated that the physical conditions which encourage invasion of these enemies—over which no one has control—are even greater enemies to the industry!

The oyster can adjust to gradual changes, but a sudden change to too much salt water or too much fresh water, especially for long periods of time, can kill it or unfavorably change the flavor of the meat.

Fattening at the proper salinity occurs when the water is cold, but just as a sudden fluctuation in saltiness or freshness of the water can kill or damage the product, a sudden cold can bring harm as well.

Sedimentation can also kill oysters, of course. Mud or bottom silt deposited on or around an oyster bar can cause suffocation—or perhaps “strangulation,” since an oyster pumps from 50 to 100 gallons of water per day through its gills, which gather food material and pass it along to the mouth. With both gills and mouth full of mud, it is easy to envision the fate of the *sessile* oyster—a creature cemented in place; unable to move to a better location!



Another menace of growing proportions is water pollution. Poisons from industrial plants, chemical sprays, and waste products washing into the bay—these and other sources of pollution are causing the oxygen to be depleted, contaminating oysters and other shellfish, possibly hindering reproduction, and, in certain cases, bringing death not only to the commercially valuable animals but to other forms of life as well, both lower and higher—from plankton to pelicans.

So, to summarize, oysters need to be grown in correct mixtures of fresh and salt water and at reasonably stable water temperatures. But before that, there must be enough suitable cultch available at the time *and the place* of heaviest spatfall if there is to be a good set. And the heavier clusters of seed oysters should be separated and replanted if the oysterman wants top production in terms of both quality and quantity, the two big factors that influence market price and, therefore, profit.

These are elementary steps in oyster cultivation; hardly more than organized efforts at giving nature a hand with the oyster growing process. But there's no denying the importance of having scientific knowledge of these bivalves and the application of good conservation principles in the oyster industry, which, in Franklin County, has quite a history.

The first written account of oysters in Florida was penned in 1527, when explorer Nunez Cabez de Vaca wrote about Tampa Bay and the mouth of the Apalachicola River, where oysters were abundant (the natives, of course, had been eating them long before the first recorded history). It was not until

the early 1920s, however, that the oyster industry flourished in the northern Gulf Coast area.

By the late '20s and early '30s, Franklin County was noted for its fine oysters. At that time the "Apalachicola oyster" was known more widely, perhaps, than the "Blue Points" and "Virginia Cape" oysters of the Atlantic coast.

Just as the Franklin County oyster industry was achieving national recognition, the first hazard almost destroyed the entire crop. An oyster company moved into the region and started harvesting oysters by dredging—without much thought for damage to the resource. Conservation practices were, at that time, hardly more than words. The temptation was to think that the supply of oyster bars, like the timber supply of earlier days, was inexhaustible.

The new company did not replant oyster shells for cultch. It dredged in areas not suited for oyster dredging. It did not leave immature oysters for later harvesting. Because of these things, oyster production was severely cut. It was seven years before production levels were back to normal again. Dredging was outlawed in Franklin County waters.

In 1949, the Florida Board of Conservation adopted the Division of Oyster Culture for the

purpose of regulating and promoting the development of the oyster industry in the state. A decade of growth and development of the industry followed.

Prior to 1961 a small number of companies and individuals owned private leases to oyster bars in Apalachicola Bay. Until this time it had been the law and custom for lessees to harvest oysters the year around. That year, however, the State passed a law allowing the harvesting of just two gallons of oysters per day per person, during the off season, not only from private leases but from the public bars as well.

The oyster catch was still large. The continued overharvesting, plus three years of poor production because of unusually high salinity and related problems, these combined factors again brought the industry to a low ebb.

In 1963, a law was passed in the Florida Legislature prohibiting the gathering of oysters during the summer months—June 1 to September 1—the same closed season in effect today. But passing laws has not been the only action of the Board of Conservation.

Back in 1949, when the Division of Oyster Culture was adopted, the Board began placing oyster shells back into the bay for cultch. Another law entitled the State to reclaim all oyster shells taken from the bay for this purpose. After the low ebb caused by the 1961-63 depletion of the oyster bars, the Board
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An oyster is being cut loose, above left, from its shell. Women handle most oyster-house shucking procedures. The oysters, below, are immediately unloaded for processing.

Florida State News Bureau Photos



(Continued from preceding page)

of Conservation began a full-scale rehabilitation program to aid the industry in Franklin County. Since 1963, the Board has replanted over a million bushels of shells annually in Apalachicola Bay.

But government was not working alone to rebuild the oyster industry. Some of the men who owned seafood businesses in Franklin County leased available bay bottom for the purpose of cultivating their own oysters. They planted their own cultch, kept their leases well staked and marked, and continued to improve the bars in order to legally maintain lease rights, which may be held in perpetuity.

One such investor is George Kirvin, whose leases cover 87 acres of bay bottom. He has planted his lease with his own boats, and, in seven years, has sunk an estimated \$28,000.00 in cultivation. His purpose? To produce a better oyster—the *select* oyster.

The regular oyster sold on the market is called a *standard* and sells today at a wholesale price of \$7.00 to \$8.00 per gallon. Selects are much larger, and wholesale price begins at \$8.50 per gallon.

The Apalachicola Bay is unique in its production of oysters. In northern waters, such as Chesapeake Bay, it takes from three to five years for an oyster to reach legal, and commercially valuable, size. However, it only takes oysters in the Apalachicola Bay from nine to fifteen months to grow to harvestable size. Furthermore, Apalachicola oysters compare in appearance with northern grown products, and the taste is said to be even more flavorful. But the select oyster, on the other hand, takes longer to mature.

There are nine different leases such as Kirvin's in Apalachicola Bay, and all the owners are seeking

to grow select oysters. Kirvin says, "I've got over \$28,000.00 worth of oysters on my bar right now, but not all of them are selects. I'm harvesting only selects off that bar."

For oystermen who do not own leases, the bay has hundreds of public bars. Last year, four and a half million pounds of oyster meat, worth gross sales of over three million dollars, were harvested from Franklin County waters. People all over the United States have tasted the famous Apalachicola oyster.

As they did in biblical times, men still harvest the oysters with tongs, working from small skiffs. The tongers sell their oysters to one of the 23 seafood houses in Franklin County, where most are sold by the bag for the "half-shell trade." The houses process the remainder, by shucking, washing and packing under careful inspection, for national distribution.

Through a cooperative effort by the Department of Natural Resources, Division of Marine Resources, and concerned individuals, the Apalachicola oyster industry continues to thrive. Franklin County is indeed "Florida's Shellfish Capitol."

The oyster George Kirvin took from his tongs was seven inches long. He reached over and picked up his oyster knife, deftly inserted its blade, and, with a twist of the wrist, flicked open the shell. He ate the beauty from the half-shell, looking out over his bar, where his oystermen were working. He could see countless other oystermen tonging from both public and privately leased bars all over the bay.

Another smile played across his face as he remarked, "Yep, we've got some mighty tasty oysters growing here!" ●

Oysters that are not legal size must be returned back to the water. An oysterman, right, is culling small from legal size.



Gun Care

HUNTING

unless forced into doing the job, firing pin making—along with trigger engagement and sear surface honing—should be left for the gunsmith



By EDMUND McLAURIN

THE WORD "skeet" comes from an archaic Scandinavian word for "shoot." In a national name-finding contest, a woman used the word to win first place and gave the now-popular shotgun sport its name.

As in trap shooting, the average skeet squad is composed of five shooters, each of whom fires a course of 25 shots.

The skeet field is laid out in a semicircle, or "half clock," with eight shooting stations. Seven stations are positioned at equal distances on the perimeter of the semicircle. The eighth is in the middle on a line between positions No. 1 and No. 7.

"High house targets" are thrown from one end of the semicircle—from a trap house opening that is ten feet above the ground. At the other end of the arc, "low house targets" are released from an opening three and one-half feet off the ground.

As the skeet squad moves from one numbered station to the next higher one, each shooter fires at two targets—one from each trap house. Doubles occur at Stations 1, 2, 6, and 7—with clay birds being thrown simultaneously from each trap house.

The 25th shot, called "optional," is a repeat of the first miss. If a shooter breaks 24 straight he (or she) can elect to call for the 25th, and final, target from any station, and can specify high house—or low house target.

In the early days of the sport, a shooter was required to keep his gun off the shoulder and low when calling for the target. Today, he can optionally shoulder his gun before calling for the target, and thus be ready for his swing in advance. However, the rules under which international skeet competitions are fired still call for observance of the off-the-shoulder gun-ready position rule, among others.

Personally, I much prefer the international style. I feel the low, off shoulder position most closely approximates gun handling afield. Nobody walks across a field or through the woods with his shotgun ever at shoulder-ready position! As in international skeet shooting, the gun is brought up between the eye and the target when the target is seen. When I shoot skeet it is to perfect my field gun handling technique—not to get impressive scores on paper.

RUST ACROSS the face of a rifle muzzle—the end of the barrel—is a common condition. Besides being

unsightly, any rust that gets down to the rifling at the muzzle may easily prove detrimental to the weapon's accuracy.

If rust sets in at the critical muzzle point of the rifling, gunsmithing is the only salvation, but, fortunately it is not the sort of gunsmithing job that restricts itself to a professional. With a few basic tools you can do the job yourself.

First, examine the condition of muzzle and rifling with a magnifying glass, under good light, to learn if the rust or pitting has reached the rifling, and, if so, how far into the barrel. Hopefully, it will only extend over the face of the muzzle and not into the bore. If the latter is the case, however, use a finetoothed flat mill file and cut back the rifle's muzzle until fresh, clean rifling is exposed.

Then, very carefully finish filing the muzzle until it is flat and square across the face, frequently checking evenness with a try square.

Next, use a sharp countersink reamer to countersink the edge of the bore about 1/32nd of an inch.

At this stage the muzzle must be crowned, so that the rifling edges will be truly square and smooth. This is accomplished by chucking a brass ball (on a shank) in a carpenter's brace or breast drill. (Shanked brass balls can be bought at most firms supplying tools and materials to machine shops, but a new round-head steel rivet—about 3/8th inch in head diameter—can be chucked in a rotating arbor and used satisfactorily.) Fine valve grinding compound and oil mixture helps speed the job.

It is important that the drill be slowly revolved in a circle—like a wobbly top that is running out of momentum—all the while manually causing the chucked rivet or brass ball to rotate in its own arbor and orbit. (If there is doubt in your mind about crowning the muzzle of a good rifle, first practice on an old, discarded one, if available. Then hie yourself to the library and study the illustrations on page 369 of *Modern Gunsmithing*, by the late Clyde Baker, or pages 223 and 224 of *Gunsmithing*, by Roy F. Dunlap.)

After obtaining a good indentation in the muzzle, change to slightly larger rivet or ball and continue the procedure until the inner half of the barrel wall appears well rounded to the eye.

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Now use a fine file to round off the outer edge of the barrel, and give it a final polishing—first with No. 00 emery cloth, then with crocus cloth held against the muzzle and twisted with the ball of the thumb. There must not be any metal burs remaining around the inside bore edge. The edges of the rifling must be sharp and clean cut.

A muzzle shaped and finished as described will be truly square—which is essential to accuracy—yet desirably crown-finished.

EVERY ONCE IN awhile a shooter will perhaps notice that the firing pin of his rifle or shotgun either scratches cartridge or shotshell face or slightly indents the live primer when closing and locking the action on a chambered but subsequently unfired and later ejected load.

Usually he feels—perhaps with some technical foundation—that something should be done to alleviate the condition. In most cases, he decides to remove firing pin and cut a wee bit off its point. When doing so, he may also decide to reshape the pin's point, making it either sharp or flat, to his own idea of improvement.

In either procedure he will probably do his amateur gunsmithing without basic knowledge of practical firing pin shape and safe minimum and maximum dimensions.

Perhaps in the very same town, or even in the same neighborhood, another shooter suffers firing pin breakage, and proceeds to try to make a replacement by hand-filing a selected piece of steel or (Heaven forbid!) even a nail to the approximate shape and size of the original firing pin.

Likely, both will end up with functional—if not downright dangerous—firing pin troubles. Hand-making of replacement firing pins should be left to the professional gunsmiths.

Frankly speaking, few shooters have any conception of the various technical decisions and operations connected with correct making and fitting of a firing pin, and how important a firing pin can be to reliable weapon functioning, accuracy and shooter safety.

First of all, a firing pin should not project beyond .065 of an inch maximum or fall short of .055 minimum—meaning the distance the firing pin should show itself from the face of breech block or bolt. (I'm giving these minimum and maximum figures offhand. If I had any firing pin making or fitting to do I would check out all the technical data applying

to a firing pin for the particular firearm being serviced—before even starting a job.)

Besides correct protrusion, the firing pin's nose must have the correct ogive.

It should be pointed out to amateur gunsmiths that the profile of a firing pin intended to explode a center fire cartridge or shotshell primer takes a different shape from that of one used to ignite rimfire ammunition. Gunsmiths of professional status know this, but not all shooters.

File marks must not only be removed from working end of a created firing pin, but firing pin point and shoulder must have a highly polished surface without any burnished spots.

And going back to the beginning of the job, just any old piece of steel cannot be used for making a truly functional and safe firing pin. The best gunsmiths usually use high grade chisel steel stock, hardened in oil and carefully temper-drawn in heated oil bath. This correct hardening and tempering takes more skill than a person realizes.

Finally, it is only fair warning to let shooters know that a poorly fitted, incorrectly tempered, wrongly shaped, or otherwise defective firing pin in a centerfire rifle can cause a serious accident. The least that can happen will be primer ignition trouble.

Unless forced into the job by necessity and circumstance, firing pin making, along with trigger engagement and sear surface honing, I leave to a custom gunsmith. You should, too.

THERE'S USUALLY no argument about the fact that in some sections of the big outdoors, a fellow can easily become lost if he does not have the resolute, accurate influence of a good pocket compass. Even Daniel Boone admitted to family and friends that on some occasions he was "confused."

It is surprising the number of occasions when a compass will prove a guy wrong when he is confident he is right!

But a compass, like other small objects carried in coat pocket, has a bad habit of falling out when the coat is removed and carried over arm or thrown on top of a car, as often happens on warm hunting days.

Long ago, I learned to either pin my compass to my coat or else use a short length of fishing leader material and a snap fastener as guard against loss. I use a small safety pin to make attachment to garment.

I do the same with the case that carries my Ray-Ban sunglasses. The improvisation has cut down on small object losses considerably.

It's an idea that can be used year around, for oft-handled fishing jackets, too, can lose small items from pockets, even when pocket flaps are buttoned. ●

Complete hunting season information for 1969-70 appeared in previous issues of FLORIDA WILDLIFE. Summaries of all rules and regulations may be obtained from County Judge offices, where license sales are made, or from the Commission offices listed on page 3.

National Highway Litter Survey

EACH MONTH American motorists drop an average of 1304 pieces of litter on every mile of the nation's vast network of primary highways—nearly 16,000 pieces per mile per year.

These startling figures were uncovered by the first national survey of roadside litter, a project sponsored by Keep America Beautiful, Inc., the national litter-prevention organization.

Allen H. Seed, Jr., executive vice president of KAB, called the survey "the most comprehensive of its kind ever undertaken in America." It was conducted by the Highway Research Board of the National Academy of Sciences in cooperation with the highway departments of 29 participating states.

Mr. Seed said the purpose of the survey was to establish, "as a first step toward more intelligent and effective highway litter control," the composition and volume of highway litter which the study reveals accumulates at an average monthly rate of about one cubic yard per mile.

Paper items accounted for 59 percent of total roadside litter. The rest was tabulated at 16 percent cans, 6 percent plastic items, 6 percent bottles and jars and 13 percent miscellaneous.

The large miscellaneous grouping was divided between tires, lumber, and a variety of unclassified items ranging from hair curlers, underwear and false teeth to ice chests and washing machines, Mr. Seed added.

The report found that total litter volume "was positively correlated with average daily traffic." In other words, generally, the more cars the more litter.

Mr. Seed noted that the study's success was largely the result of outstanding cooperation by participating state highway departments, which, he said, "generously provided personnel for collecting and recording the litter from sample areas."

Pre-selected sample sections, ranging from primary roads to eight-lane divided highways, were designated in each of the states and picked clean of litter. For 30 days the sections were left alone to accumulate their "normal" amount of litter. Then a second sweep collected and identified everything.

The report said that "control of cans and bottles will not solve the (litter) problem, and additional punitive measures are not likely to prove effective." It is said the most practical approach appears to be educational and publicity efforts led by Keep America Beautiful and the state highway departments. ●

When Will The Miracle Happen?

THE FBI HAS ISSUED its quarterly report on crime for the year 1969. It doesn't read at all like it was supposed to, says John Marsman of Savage Arms Co.

Law-abiding citizens, including gun-owning sportsmen, have waited anxiously for the report and the good news they expected it would contain—a drop in the nation's crime rate.

They had justifiable reasons for such expectations. Guns, they had been told, were responsible for the crime problem. Restrict their use, purchase and ownership by tougher laws, or take them out of circulation completely, and the crime rate would drop.

Despite the protests and active opposition of legitimate gun owners, who recognize the fallacy of such reasoning, tougher laws have been passed in recent years. They range from the Gun Control Act of 1968 on the national level to registration and licensing laws on state levels.

It's become increasingly difficult, in some cases almost impossible, to purchase guns and ammunition for legitimate purposes. Such laws are supposed to deter the criminal in his attempt to acquire a firearm for unlawful use. Thus far, it hasn't worked out that way.

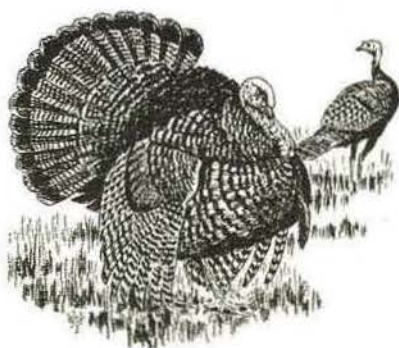
The FBI report says the crime rate climbed 10 percent during the first three months of last year, as compared with the corresponding 1968 period. Crimes of violence increased twice as rapidly as crimes against property.

Murder went up 7 percent, rape 12 percent, aggravated assault 8 percent, and robbery 22 percent. Nowhere is there mention of a decrease in crime. The question naturally arises as to why?

If tougher gun laws are supposed to reduce crime, as the anti-gun set has stated, why the paradox? Can it be the theory is false?

It's time for the citizen who has no interest in guns, and who appears to be losing out in this battle against crime, to join the sportsman. Jointly they should challenge those lawmakers who either have been misled by anti-gun propaganda, or are promoting the anti-gun movement behind the smoke screen of a crime crusade.

The public should begin asking questions about this promised miracle that has not materialized. How many more gun laws will be passed *needlessly* before it becomes obvious to even the most naive dogooder that crime will not be reduced by passing gun laws? Until the anti-gun set stop jousting with windmills, and address themselves to the criminal instead of his tools, the crime rate will keep climbing. ●



CONSERVATION SCENE

Environment Quality Index

NINETY-SEVEN percent of the American public favors reallocating Federal spending to provide more money for improvement of the natural environment, according to a national public opinion poll conducted for the National Wildlife Federation.

Although segments of the public differed on areas where they would reduce spending to free money for conservation, the major targets were national defense, the space program and international affairs.

When supplied with information on current Federal expenditures, the under-30 generation particularly favored taking money from defense and international affairs budgets. A full 71% of the college educated favored reducing the defense budget.

The pollsters concluded, "... the American people in 1969 appear to desire the focus to be on the solving of domestic problems and the improvement of the quality of life at home. The high concern of younger adults and late adolescents may well indicate an important shift in the general population's priorities."

Earlier this year, the National Wildlife Federation sponsored a national poll which found more than 85% of the public concerned about the state of the environment. So concerned, three out of four said they would willingly pay increased taxes earmarked for conservation, including 63% of those with family incomes under \$5,000 per year.

Ironically, in spite of the obvious, overwhelming public desire for solving the country's environmental problems, the Federation's recently completed Index of Environmental Quality found the U.S. is still losing the battle against pollution and natural resource depletion.

DDT Found in Polar Bears

ACCORDING to the Detroit FREE PRESS, preliminary testing has revealed high concentrations of DDT residues in Canada's high Arctic polar bear population, reports the National Wildlife Federation.

Charles J. Jonkel, of the Canadian Wildlife Service, said the pesticide concentrations were found in fat samples taken from polar bears killed in a remote Arctic region.

"The surprising discovery of high pesticide levels in fat tissue of polar bears deserves special attention," Dr. Jonkel said. "We plan to determine these levels for ... different areas of the Arctic by sampling every year. As polar bears are at the top of a food pyramid, pesticide residues may eventually reach even higher levels in these species."

"Polar bears are of economic importance to our Eskimo and Indian hunters; we seem to have most of the world's polar bears—and the range of the species includes a major portion of the Canadian Arctic."

Marine Resources Publication

"THE OCEANS of the world hold the key to the most persistent long-range problem of the entire human race, namely, how to provide adequate food for the always increasing population," writes Frank E. Firth in the Preface to the *ENCYCLOPEDIA OF MARINE RE-*

SOURCES, published by Van Nostrand Reinhold Company.

Firth, editor of the *Encyclopedia*, notes that the ocean is the greatest potential source not only of essential nutrients, but also of an almost unlimited supply of potential fresh water, and he suggests the development of such products as fish protein concentrate and intensive cultivation of high-protein seafoods, through sea farming methods, as a means of exploiting nutrient possibilities. He further states that through expansion of desalination technology, fresh water can be obtained to irrigate the deserts, thereby converting many of the earth's waste places to fertile, food-producing regions.

Designed to meet the growing need for information about the resources of the ocean, the *Encyclopedia* provides all the accumulated knowledge of the seas' major natural resources and its applications to the future of mankind in a single comprehensive volume. Over 150 topics, ranging from abalones to zooplankton, relate the importance of the biodynamics of life in the sea to the future welfare of man.

Distinguished authorities from the United States and abroad have contributed treatises on marine botany, oceanography, conchology, ichthyology, technology, nutrition, pollution, shellfishes, turtling, whaling and sealing, sponge fishes, fishery by-products, and other products from the sea.

Other special topics treated in the *Encyclopedia* are: Satellite Sensing of Marine Phenomena—a demonstration of applications of outer-space studies to marine developments; Heat and Power from the Sea—a discussion of the economic benefits possible with the harnessing of the sea; Minerals in the Ocean—an exam-

ination of the tremendous wealth in the ocean floor and man's potential use of it; Sea Farming—how the application of agricultural methods to this area can turn it into a major industry; Sharks—how the knowledge of behavior and attack patterns will save man in the sea.

Frank E. Firth, who has been assisting in the development of a marine resources program at the University of Rhode Island, has had a long and varied career as a fisheries biologist and technologist. As Fisheries Officer with the rank of Attache, in the U.S. Foreign Service Scientific, Technical and Economic Mission to Indonesia, he was responsible for programming and directing the development of the marine fisheries of Indonesia, which was acknowledged as the most successful fishery development in Southeast Asia.

Highways and Conservation

STATE HIGHWAY agencies and conservationists are not often thought of these days as allies. They usually wind up as adversaries, one interested only in the construction of modern highways, the other working to prevent indiscriminate highway routing so natural resources and scenic beauty are protected, according to John Marsman of Savage Arms Co.

Win, lose or draw, a highway agency that makes an effort to promote the cause of conservation is seldom heard of. More than likely, if the conservationists gets any cooperation from highway planners, it's the result of a tough fight.

The State of Connecticut appears to be an exception. Through its efforts, natural areas and wetlands are being set aside and preserved for use by waterfowl and other wildlife, and public access points are being established on inland and marine waters.

It all started in 1963, when the Memorandum of Understanding



Photo By Wallace Hughes

Birdlife—along the “beautiful” Gulf Coast—with litter from ashore and afloat.

was signed between the Highway Dept. and the State Board of Fisheries and Game. The agreement called for the transfer of a variety of properties under highway jurisdiction, if unusable by that agency, to the Board for sporting and wildlife uses.

Since then, 23 access points to inland waters and 13 to marine waters, plus several parcels of wetland preserves, have been presented to the Board as gifts.

The latest such gift was for conservation purposes, a 34-acre inland marsh located in Milford. It doesn't look like much, laced with drainage culverts and isolated from a natural environment. But it is and will continue to be a haven for a variety of wild creatures.

Retained as a wetland for marsh vegetation by the Board of Fisheries and Game, the area also will serve to recharge ground water tables. Its future as a much needed natural area is assured because its control has been placed in the right hands.

The Highway Department also has given parcels of land to other state and municipal agencies for public use, land which otherwise would remain idle and perhaps some day be developed for commercial purposes.

In commenting on the unique program, State Highway Commissioner Howard S. Ives said, “There are many other land gifts to public agencies, and we're proud of having effected these transfers to the public trust. In a time of burgeoning population growth, it is especially vital to preserve open spaces to assure the protection of wildlife. These are natural resources that are a traditional part of our Connecticut heritage.”

Residents of other states are entitled to the same heritage. There's no reason why the Nutmeg State plan won't work elsewhere, unless there's a shortage of highway officials such as Commissioner Ives to get it off the ground.

Pollution Funds Fight

CITIZEN INTEREST in clean water is so great that the federal water pollution control program stands a good chance of being one of the few national activities to buck the Administration's tight fiscal policy for the current year, according to the Wildlife Management Institute. As reported by the House Committee on Appropriations, and possibly as approved
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ed by the full House at the time this item is read, the construction grants for community sewage treatment facilities have been increased from the budgeted \$214 million to \$600 million. In fact, the House may have pegged the grants program at a full \$1 billion, the amount authorized for this year in the Clean Water Restoration Act of 1966.

The encouraging result stems from the work of a coalition of conservation, civic, union, and other groups, formed to develop understanding of the necessity for the Federal Government to honor its 1966 pledge to combat water pollution through the construction of sewage collection and treatment facilities. The history of the grants program shows that local and state investments in sewage treatment facilities average more than \$4 for every \$1 in federal grants.

The coalition was joined by an active corps of conservation leaders in the House of Representatives, where all congressional consideration of appropriations matters is initiated. The Congressmen conducted an imaginative campaign to induce their colleagues to support clean water by voting, as necessary, to amend the Federal Water Pollution Control Administration's appropriations bill on the floor to provide funds for the vital grants program. Mostly it was a matter of alerting Members of Congress to the conservation issue at stake. In time, pledges of support had been received from more than half of the members of the House, enough for the group to work its will on the appropriations bill when it came up for consideration on the floor.

The outlook is bright for the grants program in the Senate, where the chairman of the Appropriations Committee has indicated a willingness to ask for more funds than have been budgeted. Conservation leaders warn that congressional approval of funding

for the clean water program is one step in the battle. The next may be in getting the Administration to spend the money.

Waterfowl Poisoning Research

LEADING American and Canadian makers of sporting firearms and ammunition have reached a mid-point in their effort to help reduce waterfowl losses from lead poisoning, the Wildlife Management Institute reports. After two years of intensive study by the Illinois Institute of Technology—Research Institute (IIT-RI), and cooperative testing and consultation by the Bureau of Sport Fisheries and Wildlife, the project has found a super-soft iron which, when formed into shot, exhibits almost identical ballistic qualities of lead. But unlike lead, the iron shot will not poison the ducks and geese that may swallow it while feeding in the bottoms of hunted marshes.

Under a project developed through the industry's trade association, the Sporting Arms and Ammunition Manufacturers' Institute (SAAMI), IIT-RI explored four general areas: (1) biochemical additives for lead that might render the metal harmless in waterfowl systems; (2) lead/iron/plastic composites; (3) plated or coated shot; and (4) iron shot. Criteria guiding the research were that the material developed must be nontoxic to birds, that it must meet rigid ballistic standards, that it must be relatively inexpensive, and that it must be capable of being formed into pelleted shot in a mass production process.

Tests showed that alloying lead with other metals or coating it with plastics failed to reduce toxicity. Biochemicals also failed because of the retention of toxic qualities and the inability to produce wire from which shot pellets could be made. Composites of lead/iron/plastics also failed, and the research turned to iron shot alone.

IIT-RI overcame earlier deficiencies of iron shot, such as uncontrollable variation in pellet sizes and the metal's initially unacceptable ballistic performance due to its relatively low density. Further, the iron shot first tested eroded gun barrels and deformed chokes, a problem that could not be overcome by coating or plating the shot or loading it in special wrappers.

The super-soft iron found in wire form by IIT-RI can be processed in such a way as to avoid adverse effects on gun barrels and chokes. Test results have convinced experts that shotshells with 1 oz. of No. 4 soft iron shot have almost identical effectiveness on live birds as comparable lead loads at "in range" shots not exceeding 50 yards. In terms of shot-crippled birds, the tests indicated no appreciable difference between experimental iron shot and comparable lead loads.

The problem at this point, according to SAAMI, "is to find a practical mass production method for making spherical iron shot from super-soft iron. SAAMI has engaged IIT-RI to develop an economical process for the fabrication of suitable iron shot. Ammunition producers also are independently searching for production methods and potential suppliers.

When these last hurdles are cleared, waterfowl hunters likely will be called upon to accept and use iron shot as a step toward reducing and ultimately eliminating lead poisoning as a serious source of waterfowl losses. The shift to iron shot will mean that the lead now lying in gunning marshes will not be replenished by each year's shooting. It will slowly settle into the mud or be silted over to the point that it will be out of the reach of feeding ducks and geese.

Further details on the project may be obtained from SAAMI at 420 Lexington Avenue, New York, New York 10017.

For that BIG ONE

that didn't

get away



ELIGIBILITY REQUIREMENTS SPECIES

LARGEMOUTH BASS

.....8 pounds or larger

CHAIN PICKEREL

.....4 pounds or larger

BLUEGILL (BREAM)

.....1 1/2 pounds or larger

SHELLCRACKER

.....2 pounds or larger

BLACK CRAPPIE

.....2 pounds or larger

RED BREAST

.....1 pound or larger

All fish must be taken from the fresh waters of the state of Florida, as defined by the Game and Fresh Water Fish Commission. Fish must be caught on conventional fishing tackle, with artificial or live bait, in the presence of at least one witness.

The catch must be weighed and recorded at a fishing camp or tackle store within the state by the owner, manager, or an authorized agent of the respective establishment.

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Type of Tackle _____

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Where Caught _____ in _____ County

Date Caught _____ Catch Witnessed By _____

Registered, Weighed By _____ At _____

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Hermit Thrush

Photo By Wallace Hughes

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